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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/531,135	03/17/2000	Tohru Watanabe	005586-20035	5243

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EXAMINER

TILLERY, RASHAWN N

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 11/24/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/531,135

Applicant(s)

WATANABE, TOHRU

Examiner

Rashawn N Tillery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-6 is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al (US5638118).

Regarding claims 1 and 7, Takahashi discloses, in figure 1, a solid-state image pickup apparatus comprising:

a solid-state image pickup device (103) in which a first light receiving pixel (odd) is disposed in a plurality of lines in one-line units, and a second light receiving pixel (even) capable of being driven independently from the first light receiving pixel is disposed in at least one-line units between first light receiving pixels of the plurality of lines;

a drive circuit (105) for driving the first and second light receiving pixels of the solid-state image pickup device and accumulating information charges at mutually different times between first light receiving pixel and second light receiving pixel, as well

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as transferring and outputting information charges accumulated in the first and second light receiving pixels independently of each other (see col. 5, lines 1-27);

a timing control circuit (108) for respectively setting the storage time of information charges at the first light receiving pixel and the storage time of information charges at the second light receiving pixel of the solid-state image pickup device (see col. 5, line 6); and

a signal processing circuit for generating an image signal by adding a first output corresponding to the first light receiving pixel and a second output corresponding to the second light receiving pixel of the solid-state image pickup device (see col. 6, lines 21-52).

***Allowable Subject Matter***

1. Claims 4-6 are allowed.

Regarding claim 4, the prior art does not teach or fairly suggest a solid-state image pickup apparatus comprising a solid-state image pickup device, a drive circuit, a timing control circuit and a signal processing circuit, wherein

first and second light receiving pixels are capable of being driven independently; first and second light receiving pixels accumulate information charges at mutually different times; and the signal processing circuit performs calculations of a smear quantity on the basis of a ratio of the respective accumulation times of the information charges.

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2. Claims 2-3 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2 and 8, the prior art does not teach or fairly suggest a solid-state image pickup apparatus comprising a solid-state image pickup device, a drive circuit, a timing control circuit and a signal processing circuit, wherein

first and second light receiving pixels are capable of being driven independently; first and second light receiving pixels accumulate information charges at mutually different times; and the signal processing circuit calculates vertical transfer smear component on the basis of a ratio of the respective accumulation times of the information charges and a difference of the outputs of the first and second light receiving pixels.

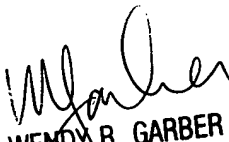
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe, Nishida et al, Takemura, Yunoki et al, Hyncek, Tanji, Koike et al, Nishizawa et al, Kumesawa and Yadid-Pecht et al teach solid-state image sensors comprising odd and even pixel readout and smear suppression.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

RNT

  
WENDY R. GARBER  
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